

1646  
Attorney's Docket No.: 11989-008001

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Marek Kwiatkowski                      Art Unit : 1646  
Serial No. : 10/071,585                              Examiner : E. Whisenant  
Filed : February 8, 2002  
Title : METHODS FOR SEPARATING OLIGONUCLEOTIDES

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

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TRANSMITTAL

The following correspondence relating to this application is enclosed for filing:

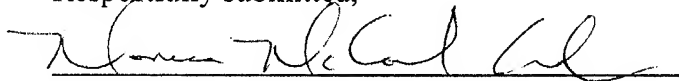
1. Supplemental Information Disclosure Statement (1 page);
2. Form PTO-1449 (1 page);
3. Copies of Cited References (2);
4. Copy of PCT International Search Report (5 pages); and
5. A Return Postcard.

Please date stamp and mail the enclosed postcard.

Please apply any charges or credits to Deposit Account No. 06-1050.

Date: 8/6/03

Respectfully submitted,

  
Monica McCormick Graham, Ph.D.  
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8-6-03  
Date of Deposit

  
Signature

Trisha J. Anderson  
Typed or Printed Name of Person Signing Certificate



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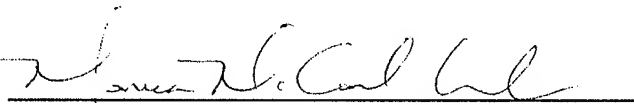
SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Copies of the references listed on the attached form PTO-1449 are enclosed. A copy of a communication from a foreign patent office in a counterpart application is also enclosed.

This statement is being filed within three months of the filing date of the application or before the receipt of a first Office action on the merits. Please apply any charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date: 8/6/03

  
Monica McCormick Graham, Ph.D.  
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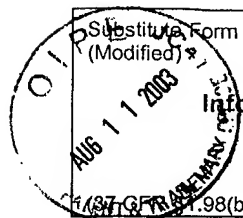
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Date of Deposit 8-6-03

Signature 

Trisha J. Anderson  
Typed or Printed Name of Person Signing Certificate

 Substitute Form PTO-1449 (Modified) <b>Information Disclosure Statement by Applicant</b> (Use several sheets if necessary)	U.S. Department of Commerce Patent and Trademark Office	Attorney's Docket No. 11989-008001	Application No. 10/071,585
	Applicant Marek Kwiatkowski		
	Filing Date February 8, 2002	Group Art Unit 1646	

**U.S. Patent Documents**

Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	AA						
	AB						
	AC						
	AD						
	AE						
	AF						
	AG						
	AH						
	AI						
	AJ						
	AK						

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**Foreign Patent Documents or Published Foreign Patent Applications**

Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation	
							Yes	No
	AL	WO 00/46231	08/10/00	PCT				
	AM	WO02/063030	08/15/02	PCT				
	AN							
	AO							
	AP							

**Other Documents (include Author, Title, Date, and Place of Publication)**

Examiner Initial	Desig. ID	Document
	AQ	
	AR	
	AS	
	AT	
	AU	

Examiner Signature	Date Considered
EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>68473-70826</b>	<div style="display: flex; justify-content: space-between;"> <div style="width: 40%;">FOR FURTHER ACTION</div> <div style="width: 60%; font-size: small;">see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.</div> </div>	
International application No. <b>PCT/SE 03/00208</b>	International filing date (day/month/year) <b>7 February 2003</b>	(Earliest) Priority Date (day/month/year) <b>8 February 2002</b>
Applicant <b>Kwiatkowski, Marek</b>		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 4 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

**1. Basis of the report**

a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing:

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

2. ☐ Certain claims were found unsearchable (See Box I).

3. ☐ Unity of invention is lacking (See Box II).

4. With regard to the title,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the abstract,

☐ the text is approved as submitted by the applicant.

☒ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the drawings to be published with the abstract is Figure No.     

☐ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

☐ None of the figures.

INTERNATIONAL SEARCH REPORT

International application No.  
PCT/SE03/00208

Box III TEXT OF THE ABSTRACT (Continuation of item 5 of the first sheet)

The invention is based on methods for purifying oligonucleotides using separation tags attached to the 3' and 5'-ends of oligonucleotides. In one aspect, the invention features a method for separating oligonucleotides.

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/SE 03/00208

## A. CLASSIFICATION OF SUBJECT MATTER

IPC7: C07H 21/00, C07H 21/02, C07H 21/04

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7: C07H

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 9808857 A1 (KWIATKOWSKI, MAREK), 5 March 1998 (05.03.98) --	1-33
X	Nucleic Acids Research, Volume 27, no. 24, 1999, Marek Kwiatkowski et al: "Inversion of in situ synthesized oligonucleotides; improved reagents for hybridization and primer extension in DNA microarrays", page 4710 - page 4714, <a href="http://nar.oupjournals.org/cgi/content/full/27/24/4710">http://nar.oupjournals.org/cgi/content/full/27/24/4710</a> , retrieved on 2003-05-14 --	1-33
P,A	WO 02063030 A2 (THIRD WAVE TECHNOLOGIES, INC.), 15 August 2002 (15.08.02) --	1-33

☒ Further documents are listed in the continuation of Box C.☒ See patent family annex.

## \* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier application or patent but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

19 May 2003

Date of mailing of the international search report

21-05-2003

Name and mailing address of the ISA/  
Swedish Patent Office  
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Authorized officer

Eva Johansson/EÖ  
Telephone No. +46 8 782 25 00

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/SE 03/00208

## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
K A	Nucleic Acids Research, Volume 24, no. 23, 1996, Marek Kwiatkowski et al: "Synthesis of full-length oligonucleotides: cleavage of apurinic molecules on a novel support", page 4632 - page 4638, <a href="http://nar.oupjournals.org/content/full/24/23/4632">http://nar.oupjournals.org/content/full/24/23/4632</a> , retrieved on 2003-05-14 --	1-33
y A	US 5319079 A (PARAMESEWARA M. REDDY ET AL), 7 June 1994 (07.06.94) --	1-33
x A	US 6309836 B1 (MAREK KWIATKOWSKI), 30 October 2001 (30.10.01) --	1-33
A	WO 0046231 A1 (AMERSHAM PHARMACIA BIOTECH INC.), 10 August 2000 (10.08.00) -- -----	1-33

INTERNATIONAL SEARCH REPORT  
Information on patent family members

29/04/03

International application No.  
PCT/SE 03/00208

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9808857 A1	05/03/98	EP 0925306 A JP 2001505543 T SE 9603171 D US 6291669 B US 6429309 B US 2002035247 A US 2002177698 A	30/06/99 24/04/01 00/00/00 18/09/01 06/08/02 21/03/02 28/11/02
WO 02063030 A2	15/08/02	US 2002128465 A	12/09/02
US 5319079 A	07/06/94	NONE	
US 6309836 B1	30/10/01	AU 7979200 A EP 1218391 A JP 2003511386 T US 2002015961 A WO 0125247 A	10/05/01 03/07/02 25/03/03 07/02/02 12/04/01
WO 0046231 A1	10/08/00	AU 2868700 A CA 2361079 A EP 1149109 A JP 2002536381 T NO 20013804 A	25/08/00 10/08/00 31/10/01 29/10/02 22/08/01